

WHAT IS CLAIMED AS NEW AND DESIRED TO BE PROTECTED BY  
LETTERS PATENT OF THE UNITED STATES OF AMERICA, IS:

1. A collated array of pavement markers, comprising:

a plurality of pavement markers arranged within a collated array;

a block of adhesive material fixedly mounted upon

5 each one of said plurality of pavement markers so as to permit each one of said plurality of pavement markers to be fixedly adhered to a pavement surface when said plurality of pavement markers are serially dispensed and applied to the pavement surface at predeterminedly spaced positions located  
10 along the pavement surface; and

a single release sheet to which all of said blocks of adhesive material of said plurality of pavement markers are adhered prior to the serial dispensing and application of said plurality of pavement markers onto the pavement sur-  
15 face.

2. The array of pavement markers as set forth in Claim 1,

20 wherein:

said plurality of pavement markers comprise tempo-  
rary raised pavement markers (TRPMs).

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3. The array of pavement markers as set forth in Claim 2,  
wherein:

5        said plurality of temporary raised pavement markers (TRPMs) have substantially L-shaped configurations comprising a normally horizontally oriented relatively short leg member and a normally vertically oriented relatively long leg member.

10      4. The array of pavement markers as set forth in Claim 3,  
wherein:

15      5. The array of temporary raised pavement markers (TRPMs) are disposed within a nested array with respect to each other prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface.

20      5. The array of pavement markers as set forth in Claim 4,  
wherein:

25      6. The plurality of normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs) are disposed atop one another when said plurality of temporary raised pavement markers (TRPMs) are disposed within said nested array; and

30      7. Portions of said single release sheet, to which all of said blocks of adhesive material of said plurality of temporary raised pavement markers (TRPMs) are adhered prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface, are interposed between successive ones of said

nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs).

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6. The array of pavement markers as set forth in Claim 5, wherein:

each one of said portions of said single release sheet, interposed between said successive ones of said nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs), defines a folded loop, set inwardly with respect to an edge portion of each one of said blocks of adhesive material, such that when each one of said folded loops is unfolded in connection with the serial dispensing and application of said temporary raised pavement markers (TRPMs) onto the pavement surface, a feather-edge bond structure, defined at a boundary region between each folded loop portion of said release sheet and each one of said blocks of adhesive material, is able to be effectively recombined with a respective one of said blocks of adhesive material so as to effectively permit said feather-edge bond structure to be completely assimilated within said block of adhesive material and thereby readily permit the easy separation, peeling, and stripping of said release sheet from each one of said blocks of adhesive material.

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7. The array of pavement markers as set forth in Claim 5,

wherein:

each one of said plurality of temporary raised pavement markers (TRPMs), having said substantially L-shaped configurations comprising said normally horizontally oriented relatively short leg members and said normally vertically oriented relatively long leg members, have a predetermined lateral width dimension; and

said single release sheet has a predetermined lateral width dimension which is greater than said predetermined lateral width dimension of each one of said plurality of temporary raised pavement markers (TRPMs) such that side edge portions of said single release sheet extend beyond side edge portions of each one of said plurality of temporary raised pavement markers (TRPMs).

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8. A method of forming a collated array of pavement markers, comprising the steps of:

20 providing a plurality of pavement markers arranged within a collated array;

fixedly mounting a block of adhesive material upon each one of said plurality of pavement markers so as to permit each one of said plurality of pavement markers to be fixedly adhered to a pavement surface when said plurality of pavement markers are serially dispensed and applied to the pavement surface at predeterminedly spaced positions located along the pavement surface; and

30 adhering a single release sheet to all of said blocks of adhesive material of said plurality of pavement

markers prior to the serial dispensing and application of said plurality of pavement markers onto the pavement surface.

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9. The method as set forth in Claim 8, further comprising the steps of:

providing said plurality of pavement markers as  
10 temporary raised pavement markers (TRPMs) having substantially L-shaped configurations comprising a normally horizontally oriented relatively short leg member and a normally vertically oriented relatively long leg member; and

disposing said plurality of temporary raised pavement markers (TRPMs) within a nested array with respect to each other prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface.

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10. The method as set forth in Claim 9, further comprising the steps of:

disposing said plurality of normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs) atop one another when said plurality of temporary raised pavement markers (TRPMs) are disposed within said nested array; and

interposing portions of said single release sheet,  
30 to which all of said blocks of adhesive material of said plurality of temporary raised pavement markers (TRPMs) are

adhered prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface, between successive ones of said nested, normally horizontally oriented relatively short leg  
5 members of said plurality of temporary raised pavement markers (TRPMs).

10 11. The method as set forth in Claim 10, further comprising the step of:

forming each one of said portions of said single release sheet, interposed between said successive ones of said nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs), into a folded loop, set inwardly with respect to an edge portion of each one of said blocks of adhesive material, such that when each one of said folded loops is unfolded in connection with the serial dispensing 20 and application of said temporary raised pavement markers (TRPMs) onto the pavement surface, a feather-edge bond structure, defined at a boundary region between each folded loop portion of said release sheet and each one of said blocks of adhesive material, is able to be effectively re-combined with a respective one of said blocks of adhesive material so as to effectively permit said feather-edge bond structure to be completely assimilated within said block of adhesive material and thereby readily permit the easy separation, peeling, and stripping of said release sheet from 25 30 each one of said blocks of adhesive material.

12. The method as set forth in Claim 10, further comprising the steps of:

providing each one of said plurality of temporary raised pavement markers (TRPMs), having said substantially L-shaped configurations comprising said normally horizontally oriented relatively short leg members and said normally vertically oriented relatively long leg members, with a predetermined lateral width dimension; and

providing said single release sheet with a predetermined lateral width dimension which is greater than said predetermined lateral width dimension of each one of said plurality of temporary raised pavement markers (TRPMs) such that side edge portions of said single release sheet extend beyond side edge portions of each one of said plurality of temporary raised pavement markers (TRPMs).

13. Apparatus for serially dispensing and applying a collated array of pavement markers onto a pavement surface, comprising:

a plurality of pavement markers arranged within a collated array;

a block of adhesive material fixedly mounted upon each one of said plurality of pavement markers so as to permit each one of said plurality of pavement markers to be fixedly adhered to a pavement surface when said plurality of pavement markers are serially dispensed and applied to the pavement surface at predeterminedly spaced positions located along the pavement surface;

a single release sheet to which all of said blocks

of adhesive material of said plurality of pavement markers are adhered prior to the serial dispensing and application of said plurality of pavement markers onto the pavement surface; and

5           means for causing a leading one of said plurality of pavement markers, disposed within said collated array of pavement markers, to be separated from said plurality of pavement markers disposed within said collated array of pavement markers so as to be capable of being applied to the  
10           pavement surface.

14. The apparatus as set forth in Claim 13, wherein:

15           said plurality of pavement markers comprise temporary raised pavement markers (TRPMs).

20       15. The apparatus as set forth in Claim 14, wherein:

          said plurality of temporary raised pavement markers (TRPMs) have substantially L-shaped configurations comprising a normally horizontally oriented relatively short leg member and a normally vertically oriented relatively long leg member.  
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16. The apparatus as set forth in Claim 15, wherein:

30           said plurality of temporary raised pavement markers (TRPMs) are disposed within a nested array with respect

to each other prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface.

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17. The apparatus as set forth in Claim 16, wherein:

said plurality of normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs) are disposed atop one another when said plurality of temporary raised pavement markers (TRPMs) are disposed within said nested array; and

portions of said single release sheet, to which all of said blocks of adhesive material of said plurality of temporary raised pavement markers (TRPMs) are adhered prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface, are interposed between successive ones of said nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs).

25 18. The apparatus as set forth in Claim 17, wherein:

each one of said portions of said single release sheet, interposed between said successive ones of said nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs), defines a folded loop, set inwardly with respect to an edge portion of each one of said blocks of adhesive ma-

terial, such that when each one of said folded loops is unfolded in connection with the serial dispensing and application of said temporary raised pavement markers (TRPMs) onto the pavement surface, a feather-edge bond structure, defined  
5 at a boundary region between each folded loop portion of said release sheet and each one of said blocks of adhesive material, is able to be effectively recombined with a respective one of said blocks of adhesive material so as to effectively permit said feather-edge bond structure to be  
10 completely assimilated within said block of adhesive material and thereby readily permit the easy separation, peeling, and stripping of said release sheet from each one of said blocks of adhesive material.

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19. The apparatus as set forth in Claim 17, wherein:

each one of said plurality of temporary raised pavement markers (TRPMs), having said substantially L-shaped configurations comprising said normally horizontally oriented relatively short leg members and said normally vertically oriented relatively long leg members, have a predetermined lateral width dimension; and

said single release sheet has a predetermined lateral width dimension which is greater than said predetermined lateral width dimension of each one of said plurality of temporary raised pavement markers (TRPMs) such that side edge portions of said single release sheet extend beyond side edge portions of each one of said plurality of temporary raised pavement markers (TRPMs).

20. The apparatus as set forth in Claim 13, wherein:

said means for causing said leading one of said plurality of pavement markers, disposed within said collated array of pavement markers, to be separated from said plurality of pavement markers disposed within said collated array of pavement markers so as to be capable of being applied to the pavement surface comprises a stripper plate around which said single release sheet is routed so as to strip said single release sheet from said leading one of said plurality of pavement markers in order to expose said block of adhesive material disposed upon said leading one of said plurality of pavement markers such that said leading one of said plurality of pavement markers can be fixedly applied to the pavement surface.

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21. The apparatus as set forth in Claim 20, further comprising:

20 an indexable roller, around which said single release sheet is routed, for indexably moving said single release sheet predetermined distances so as to serially dispense individual ones of said pavement markers at predetermined times such that said pavement markers will be fixedly applied onto the pavement surface at positions which are spaced predetermined distances apart.

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30 22. The apparatus as set forth in Claim 21, further comprising:

a drive motor operatively connected to said indexable roller; and

5 a program logic controller (PLC) operatively connected to said drive motor so as to energize said drive motor at predetermined times so as to cause said drive motor to operate said indexable roller at predetermined times in order to indexably advance said single release sheet with respect to said stripper plate.

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23. The apparatus as set forth in Claim 20, further comprising:

15 an applicator wheel for rollably engaging said leading one of said plurality of pavement markers, from which said single release sheet has been stripped, so as to fixedly apply said leading one of said plurality of pavement markers to the pavement surface.

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24. A method for serially dispensing and applying a collated array of pavement markers onto a pavement surface, comprising the steps of:

25 providing a plurality of pavement markers within a collated array;

30 fixedly mounting a block of adhesive material upon each one of said plurality of pavement markers so as to permit each one of said plurality of pavement markers to be fixedly adhered to a pavement surface when said plurality of pavement markers are serially dispensed and applied to the

pavement surface at predeterminedly spaced positions located along the pavement surface;

adhering a single release sheet to all of said blocks of adhesive material of said plurality of pavement markers prior to the serial dispensing and application of said plurality of pavement markers onto the pavement surface; and

separating a leading one of said plurality of pavement markers, disposed within said collated array of pavement markers, from said plurality of pavement markers disposed within said collated array of pavement markers so as to be capable of being applied to the pavement surface.

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25. The method as set forth in Claim 24, further comprising the steps of:

providing said plurality of pavement markers as temporary raised pavement markers (TRPMs) having substantially L-shaped configurations comprising a normally horizontally oriented relatively short leg member and a normally vertically oriented relatively long leg member; and

disposing said plurality of temporary raised pavement markers (TRPMs) within a nested array with respect to each other prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface.

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26. The method as set forth in Claim 25, further comprising

the steps of:

disposing said plurality of normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs) atop one another  
5 when said plurality of temporary raised pavement markers (TRPMs) are disposed within said nested array; and

interposing portions of said single release sheet, to which all of said blocks of adhesive material of said plurality of temporary raised pavement markers (TRPMs) are  
10 adhered prior to the serial dispensing and application of said plurality of temporary raised pavement markers (TRPMs) onto the pavement surface, between successive ones of said nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs).  
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27. The method as set forth in Claim 26, further comprising  
20 the step of:

forming each one of said portions of said single release sheet, interposed between said successive ones of said nested, normally horizontally oriented relatively short leg members of said plurality of temporary raised pavement markers (TRPMs), into a folded loop, set inwardly with respect to an edge portion of each one of said blocks of adhesive material, such that when each one of said folded loops is unfolded in connection with the serial dispensing and application of said temporary raised pavement markers (TRPMs) onto the pavement surface, a feather-edge bond  
25 structure, defined at a boundary region between each folded  
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loop portion of said release sheet and each one of said blocks of adhesive material, is able to be effectively recombined with a respective one of said blocks of adhesive material so as to effectively permit said feather-edge bond structure to be completely assimilated within said block of adhesive material and thereby readily permit the easy separation, peeling, and stripping of said release sheet from each one of said blocks of adhesive material.

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28. The method as set forth in Claim 26, further comprising the steps of:

15 providing each one of said plurality of temporary raised pavement markers (TRPMs), having said substantially L-shaped configurations comprising said normally horizontally oriented relatively short leg members and said normally vertically oriented relatively long leg members, with a predetermined lateral width dimension; and

20 providing said single release sheet with a predetermined lateral width dimension which is greater than said predetermined lateral width dimension of each one of said plurality of temporary raised pavement markers (TRPMs) such that side edge portions of said single release sheet extend 25 beyond side edge portions of each one of said plurality of temporary raised pavement markers (TRPMs).

30 29. The method as set forth in Claim 24, further comprising the step of:

using a stripper plate to cause said leading one  
of said plurality of pavement markers, disposed within said  
collated array of pavement markers, to be separated from  
said plurality of pavement markers, disposed within said  
5 collated array of pavement markers so as to be capable of  
being applied to the pavement surface, as a result of said  
single release sheet being routed around said stripper plate  
so as to strip said single release sheet from said leading  
one of said plurality of pavement markers in order to expose  
10 said block of adhesive material disposed upon said leading  
one of said plurality of pavement markers such that said  
leading one of said plurality of pavement markers can be  
fixedly applied to the pavement surface.

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30. The method as set forth in Claim 29, further comprising  
the step of:

indexably moving an indexable roller, around which  
20 said single release sheet is routed, for indexably moving  
said single release sheet predetermined distances so as to  
serially dispense individual ones of said pavement markers  
at predetermined times such that said pavement markers will  
be fixedly applied onto the pavement surface at positions  
25 which are spaced predetermined distances apart.

31. The method as set forth in Claim 30, further comprising  
30 the steps of:

operatively connecting a drive motor to said in-

dexable roller; and

5                   operatively connecting a program logic controller (PLC) to said drive motor so as to energize said drive motor at predetermined times so as to cause said drive motor to operate said indexable roller at predetermined times in order to indexably advance said single release sheet with respect to said stripper plate.

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32. The method as set forth in Claim 31, further comprising the step of:

15                   using an applicator wheel to rollably engage said leading one of said plurality of pavement markers, from which said single release sheet has been stripped, so as to fixedly apply said leading one of said plurality of pavement markers to the pavement surface.

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